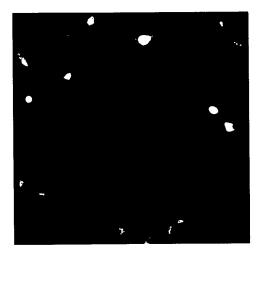
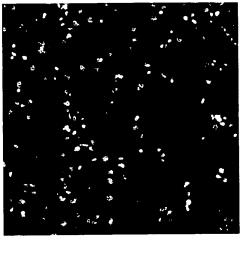
Figure 1



Green Fluorescent Protein



Hoechst 33342 Stain

Figure 2

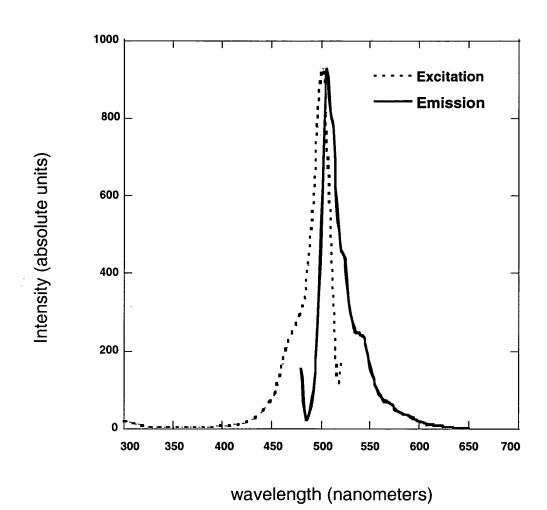
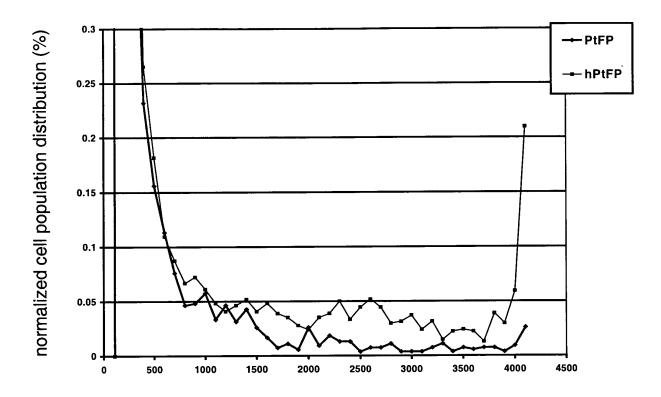
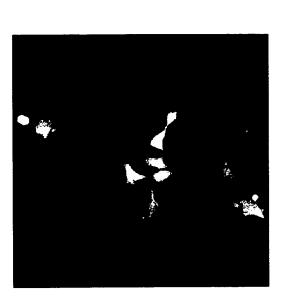


Figure 3



fluorescence intensity

Figure 4



HEK 293 cells



A549 cells

Figure 5

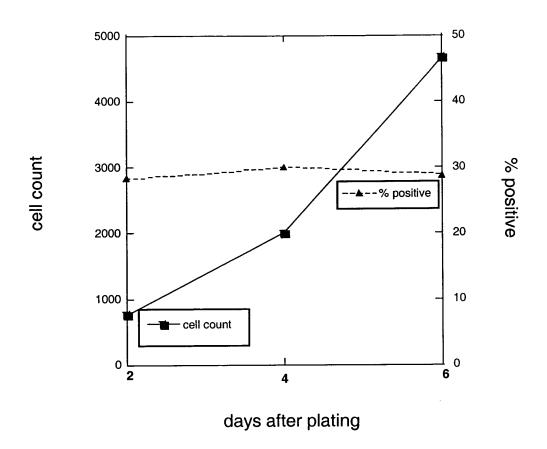


Figure 6

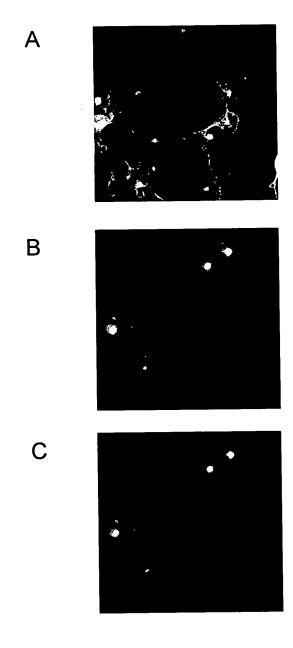


Figure 7

Caspase-3 biosensor

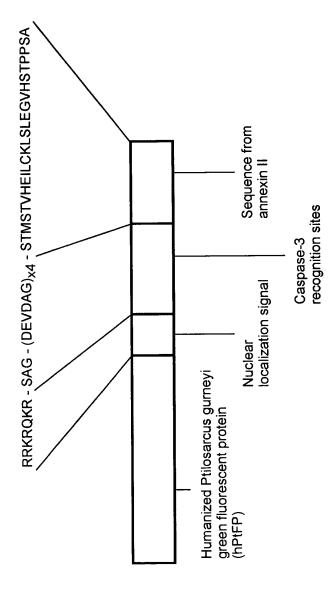


Figure 8



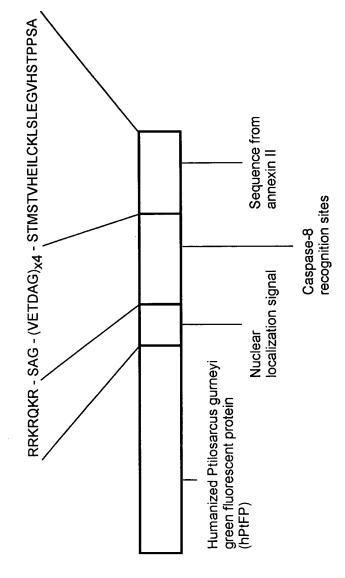


Figure 9

	Figure 9																				
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PtFP	1		ATG			AAC			-			_		-						_	
hPtFP	1	ATG																			
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		Ser																			
PtFP	61		GTT																		
hPtFP	61	AGC	GIG	GAG *	*	ATC	GTG	AAC	AAC	CAC	GTG		AGC **	ATG	GAG	GGC	TTC	GGC	AAG *	GGC	AAC
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	+1	Val	Leu	Phe	Gly	Asn	Gln	Leu	Met	Gln	Ile	Arq	Val	Thr	Lys	Gly	Gly	Pro	Leu	Pro	Phe
PtFP	121		TTA																		
hPtFP	121	GTG	CTG	TTC	GGC	AAC	CAG	CTG	ATG	CAG	ATC	CGG	GTG	ACC	AAG	GGC	GGC	CCT	CTG	CCC	TTC
		*	* *	*	*		*			*			*	*		*	*	*		*	110
D	+1	Ala	Phe	Asp	Ile	Val	Ser	Ile	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro
PtFP	181	GCT	TTC	GAT	ATT	GTT	TCC	ATA	GCT	TTC	CAA	TAC	GGG	AAT	CGC	ACT	TTC	ACG	AAA	TAC	CCA
hPtFP	181	*	110	GAC	ATC *	GTG	AGC	ATC	GCC *	TTC	CAG	TAC					TTC			TAT	CCC
						-		-	•		•		*	*	*	*		*	*	*	*
	+1	Asp	Asp	Ile	Ala	Asp	Tvr	Phe	Val	Gln	Ser	Phe	Pro	Ala	Glv	Phe	Dhe	Tur	Glu	Ara	Nen
PtFP	241	GAC	GAC	ATT	GCG	GAC	TAC	TTT	GTT	CAA	TCA	TTC	CCG	GCT	GGA	TTT	TTC	TAC	GAA	AGA	AAT
hPtFP	241	ĠAC	GAC	ATC	GCC	GAC	TAC	TTC	GTG	CAG	AGC	TTC	CCT	GCC	GGC	TTC	TTC	TAC	GAG	CGG	AAC
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hPtFP	301	CTG	CGG	TTC	GAG	GAC	GGC	GCC	ATI	GTG	GAC	WII	CGI	ACC	CAC	ATA	AGT	TTA	GAA	GAT	GAT
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	+1	Lys	Phe	His	Tyr	Lys	Val	Glu	Tyr	Arg	Gly	Asn	Gly	Phe	Pro	Ser	Asn	Gly	Pro	Val	Met
PtFP	361	AAG	TTC	CAC	TAC	AAA	GTG	GAG	TAT	AGA	GGC	AAC	GGT	TTC	CCT	AGT	AAC	GGA	CCC	GTG	ATG
hPtFP	361	AAG	TTC	CAC	TAC	AAG	GTG	GAG	TAC	CGC	GGC	AAC	GGC	TTC	CCT	AGC	AAC			GTG	ATG
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	+1	Gln	Lvs	Ala	Ile	Leu	Glv	Met	Glu	Pro	Ser	Dhe	Glu	17-3	1701	W- c	Wot	7.00	Com	01. .	17- 3
PtFP	421	CAA	AAA	GCC	ATC	CTC	GGC	ATG	GAG	CCA	TCG	THE	GAG	GTG	אמד	ተልተ	ATC	WRIT	PGC	GTA	val
hPtFP	421	CAG	AAG	GCC	ATC	CTG	GGC	ATG	GAG	CCC	AGC	TTC	GAG	GTG	GTG	TAC	ATG	AAC	AGC	GGC	GTG
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hPtFP	481 481	CTG	GTG	GGC	GAA	GTA	GAT	CTC	GTT	TAC	AAA	CIC	GAG	TCA	GGG	AAC	TAT	TAC	TCG	TGC	CAC
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	+1	Met	Lys	Thr	Phe	Tyr	Arg	Ser	Lys	Gly	Gly	Val	Lys	Glu	Phe	Pro	Glu	Tyr	His	Phe	Ile
PtFP	541	ATG	AAA	ACG	TTT	TAC	AGA	TCC	AAA	GGT	GGA	GTG	AAA	GAA	TTC	CCG	GAA	TAT	CAC	TTT	ATC
hPtFP	541	ATG	AAG	ACC	TTC	TAC	CGG	AGC	DAA	GGC	GGC	GTG	AAG	GAG	TTC	CCT	GAG	TAC	CAC	TTC	ATC
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PtFP	601	CAT	CAT	CGT	CTG	GAG	AAA	ACC	TAC	GTG	GAA	GAA	4DD	AGC	TTC	GTG	GAD	CVV	CAC	DAG	ACG
hPtFP	601	CAC	CAC	CGG	CTG	GAG	AAG	ACC	TAC	GTG	GAG	GAG	GGC	AGC	TTC	GTG	GAG	CAG	CAC	GAG	ACC
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PtFP	+1 661	Ala	TIE.	GC2	GID	Leu	Thr	Thr	Ile	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	***
hPtFP	661	GCC	ATC	GCC	CAG	CTG	ACC	ACC	ATC	GGC	AAA	CCL	CIA	GGC	AGC	CIT	CAT	GAA	TYTE	GLG	AAT

Figure 10

HindIII

- +1 M V N R N V L K N T G

 1 AAG CTT GCC ACC ATG GTG AAC CGG AAC GTG CTG AAG AAC ACC GGC

 TTC GAA CGG TGG TAC CAC TTG GCC TTG CAC GAC TTC TTG TGG CCG
- +1 L K E I M S A K A S V E G I V
 46 CTG AAG GAG ATC ATG AGC GCC AAG GCC AGC GTG GAG GGC ATC GTG
 GAC TTC CTC TAG TAC TCG CGG TTC CGG TCG CAC CTC CCG TAG CAC
- +1 N N H V F S M E G F G K G N V 91 AAC AAC CAC GTG TTC AGC ATG GAG GGC TTC GGC AAG GGC AAC GTG TTG TTG GTG CAC AAG TCG TAC CTC CCG AAG CCG TTC CCG TTG CAC
- +1 L F G N Q L M Q 1 R V T K G G
 136 CTG TTC GGC AAC CAG CTG ATG CAG ATC CGG GTG ACC AAG GGC GGC
 GAC AAG CCG TTG GTC GAC TAC GTC TAG GCC CAC TGG TTC CCG CCG
- L p F Α D Y +1 P F Ι ٧ Ι Α F 0 CCT CTG CCC TTC GCC TTC GAC ATC GTG AGC ATC GCC TTC CAG TAC GGA GAC GGG AAG CGG AAG CTG TAG CAC TCG TAG CGG AAG GTC ATG
- +1 G N R T F T K Y P D D I A D Y
 226 GGC AAC CGG ACC TTC ACC AAG TAT CCC GAC GAC ATC GCC GAC TAC
 CCG TTG GCC TGG AAG TGG TTC ATA GGG CTG CTG TAG CGG CTG ATG
- +1 F V Q S F P A G F F Y E R N L
 271 TTC GTG CAG AGC TTC CCT GCC GGC TTC TTC TAC GAG CGG AAC CTG
 AAG CAC GTC TCG AAG GGA CGG CCG AAG AAG ATG CTC GCC TTG GAC
- +1 R F E D G A I V D I R S D I S
 316 CGG TTC GAG GAC GGC GCC ATC GTG GAC ATC CGG AGC GAC ATC AGC
 GCC AAG CTC CTG CCG CGG TAG CAC CTG TAG GCC TCG CTG TAG TCG
- +1 L E D D K F H Y K V E Y R G N
 361 CTG GAG GAC GAC AAG TTC CAC TAC AAG GTG GAG TAC CGC GGC AAC
 GAC CTC CTG CTG TTC AAG GTG ATG TTC CAC CTC ATG GCG CCG TTG
- +1 G F P S N G P V M Q K A I L G
 406 GGC TTC CCT AGC AAC GGC CCT GTG ATG CAG AAG GCC ATC CTG GGC
 CCG AAG GGA TCG TTG CCG GGA CAC TAC GTC TTC CGG TAG GAC CCG
- +1 M E P S F E V V Y M N S G V L
 451 ATG GAG CCC AGC TTC GAG GTG GTG TAC ATG AAC AGC GGC GTG CTG
 TAC CTC GGG TCG AAG CTC CAC CAC ATG TAC TTG TCG CCG CAC GAC
- G E S G N Y +1 V ٧ D L V Y K L GTG GGC GAG GTG GAC CTG GTG TAC AAG CTG GAG AGC GGC AAC TAC CAC CCG CTC CAC CTG GAC CAC ATG TTC GAC CTC TCG CCG TTG ATG
 - +1 Y S C H M K T F Y R S K G G V

Figure 10 (continued)

- 541 TAC AGC TGC CAC ATG AAG ACC TTC TAC CGG AGC AAG GGC GGC GTG ATG TCG ACG GTG TAC TTC TGG AAG ATG GCC TCG TTC CCG CCG CAC
- +1 K E F P E Y H F I H H R L E K
 586 AAG GAG TTC CCT GAG TAC CAC TTC ATC CAC CAC CGG CTG GAG AAG
 TTC CTC AAG GGA CTC ATG GTG AAG TAG GTG GTG GCC GAC CTC TTC
- +1 T Y V E E G S F V E Q H E T A
 631 ACC TAC GTG GAG GAG GGC AGC TTC GTG GAG CAC GAG ACC GCC
 TGG ATG CAC CTC CTC CCG TCG AAG CAC CTC GTC GTG CTC TGG CGG
- +1 I A Q L T T I G K P L G S L H
 676 ATC GCC CAG CTG ACC ACC ATC GGC AAG CCT CTG GGC AGC CTG CAC
 TAG CGG GTC GAC TGG TGG TAG CCG TTC GGA GAC CCG TCG GAC GTG

NotI

+1 E W V *
721 GAG TGG GTG TAA AGC GGC CGC
CTC ACC CAC ATT TCG CCG GCG

The coding sequence (from start codon to stop codon):

atggtgaaccggaacgtgctgaagaacaccggcctgaaggagatcatgagcgcaag gccagcgtggagggcatcgtgaacaaccacgtgttcagcatggagggcttcggcaag ggcaacgtgctgttcggcaaccagctgatgcagatccgggtgaccaagggcgccct ctgcccttcgccttcgacatcgtgagcatcgccttccagtacggcaaccggaccttc accaagtatcccgacgacatcgccgactacttcgtgcagagcttccctgccggcttc ttctacgagcggaacctgcggttcgaggacggcgccatcgtggacatccggagcgac atcagcctggaggacgacaagttccactacaaggtggagtaccgcggcaacggcttc cctagcaacggccctgtgatgcagaaggccatcctgggcatggagccagcttcgag gtggtgtacatgaacagcggcgtgctggtgggcgaggtggacctggtgtacaagctg gagagcggcaactactacagctgccacatgaagaccttctaccggagcaaggcggc gtgaaggagttccctgagtaccacttcatccaccaccggctggagaagacctacgtg gaggagggcagcttcgtggagcagcacgagaccgccatcgcccagctgaccaccatc ggcaagcctctgggcagcctgcacgagtgggtgtaa

Figure 11

aagettgecaccatggtgaaccggaacgtgetgaagaacaccggcetgaaggagate
atgagegcaaggccagegtggagggcatcgtgaacaaccacgtgttcagcatggag
ggettcggcaagggcaacgtgetgttcggcaaccagetgatgcagatccgggtgacc
aagggcggccetctgccettcgcettcgacatcgtgagcatcgcettccagtacggc
aaccggaccttcaccaagtatcccgacgacatcgccgactacttcgtgagacgccatcgtggac
atccggagcgacatcagcctggaggaccatcgcggttcgaggacggcgcatcgtggac
atccggagcgacatcagcctggaggacgacaagttccactacaaggtggagtaccgc
ggcaacggcttccctagcaacggccctgtgatgcagaaggccatcctgggcatggag
cccagcttcgaggtggtgtacatgaacagcggcgtgctggtgggcgaggtggacctg
gtgtacaagctggaggaggcgactactacagctgccacatgaagaccttctaccgg
agcaagggcggcgtgaaggagttccctgagtaccacttcatccaccaccggctggag
aagacctacgtggaggagggcagcttcgtggagcagcacgaaccgccatcgccag
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Figure 12

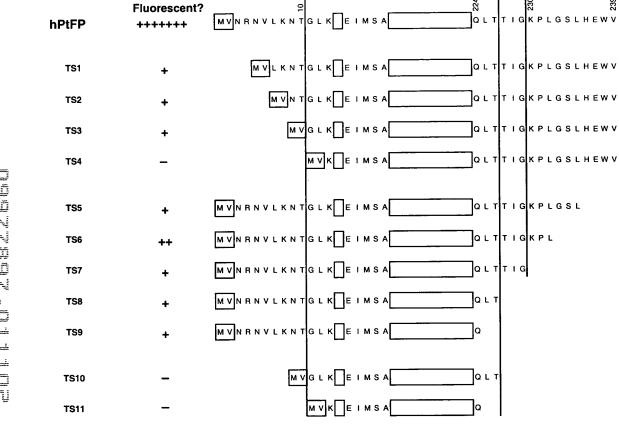
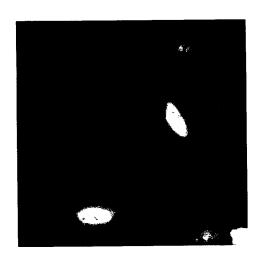


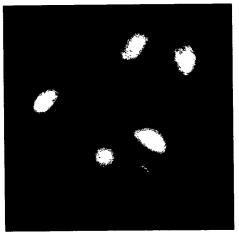
Figure 14



no treatment



Staurosporine 10 nM 6 hours

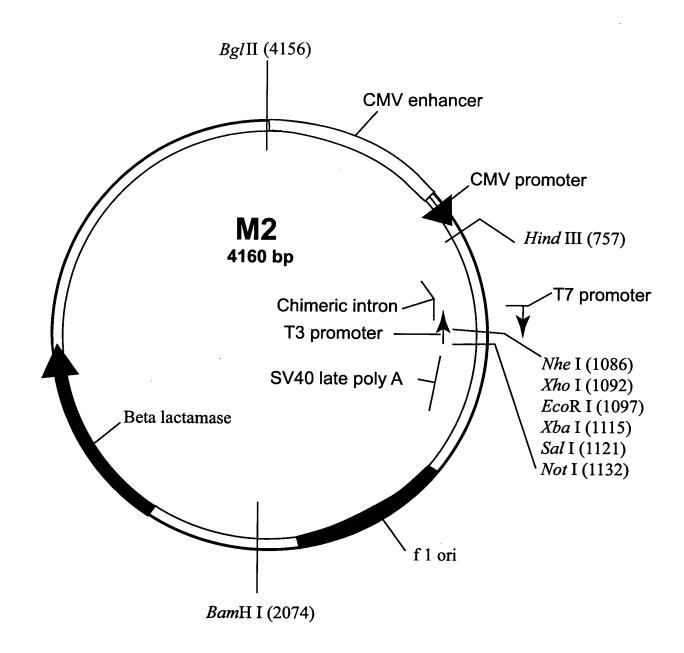


Staurosporine 1 nM 24 hours

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	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50	UGC C 0.55 UGA * 0.50 UGG W 1.00	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19 L 0.07 (75667) CCA P 0.27 (182506) CAA Q 0.26 (130857) CGA R 0.11	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19 L 0.07 (75667) CCA P 0.27 (182506) CAA Q 0.26 (130857) CGA R 0.11 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19 L 0.07 (75667) CCA P 0.27 (182506) CAA Q 0.26 (130857) CGA R 0.11 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19 L 0.07 (75667) CCA P 0.27 (182506) CAA Q 0.26 (130857) CGA R 0.11 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21 I 0.35 (174021) ACU T 0.24 (140780) AAU N 0.46 (186915) AGU S 0.15	F 0.55 (225633) UCC S 0.22 (192616) UAC Y 0.57 (174805) UGC C 0.55 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 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(219428) CAC H 0.59 (162826) CGC R 0.19 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21 L 0.40 (435317) ACU T 0.24 (140780) AAU N 0.46 (186915) AGU S 0.15 I 0.49 (240138) ACC T 0.36 (162837) AAA K 0.42 (262639) AGA R 0.20 M 1.00 (244236) ACG T 0.12 (69346) AAG K 0.58 (359627) AGG R 0.20	F 0.55 (225633) UCC S 0.22 (192616) UAA * 0.29 (8187) UGA * 0.50 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.03 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.000 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.000 L 0.13 (139009) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21 I 0.35 (174021) ACU T 0.24 (140780) AAU N 0.46 (186915) AGU S 0.15 I 0.16 (78463) ACA T 0.28 (162837) AAA K 0.42 (262630) AGA R 0.20 M 1.00 (244236) ACG T 0.12 (69346) AAG K 0.58 (359627) AGG R 0.16 V 0.18 (119013) GCU A 0.26 (202329) GAU D 0.46 (245435) GGU G 0.16	F 0.55 (225633) UCC S 0.22 (192616) UAA * 0.29 (8187) UGA * 0.50 L 0.07 (79303) UCA S 0.15 (128429) UAA * 0.29 (8187) UGA * 0.50 L 0.03 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.13 (135218) UCG S 0.06 (49456) UAG * 0.21 (5913) UGG W 1.00 L 0.20 (210903) CCU P 0.28 (189374) CAU H 0.41 (113684) CGU R 0.08 L 0.20 (210903) CCC P 0.33 (219428) CAC H 0.59 (162826) CGC R 0.19 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21 L 0.40 (435317) CCG P 0.11 (76684) CAG Q 0.74 (377006) CGG R 0.21 I 0.35 (174021) ACU T 0.24 (140780) AAU N 0.46 (186915) AGU S 0.15 I 0.16 (78463) ACA T 0.28 (162837) AAA K 0.42 (262630) AGA R 0.20 M 1.00 (244236) ACG T 0.12 (69346) AAG K 0.58 (359627) AGG R 0.16 V 0.18 (119013) GCU A 0.26 (202329) GAU D 0.46 (245435) GGU G 0.16 V 0.24 (160764) GCC A 0.40 (310626) GAC D 0.54 (287040) GGC G 0.34	F 0.55 (225633) UCC S 0.22 (192616) UAA * 0.29 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Figure 15

Figure 16



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Figure 17 (continued)

Figure 18

